Work Order ID 63539

, Thursday, November 04, 2010 9:26:13 AM



Page 1

Item ID:

D212-664-201

Accept

Setup Start

Stop



Revision ID:

Item Name: Crosstube Aft

11/4/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Start Date:

Approvals:

Required Date: 11/19/2010

Process Plan:

Date! 0-11-04 Tooling:

Date:

SPC (Y/N):

Stop

Reject

Qty

Start

Sequence ID/ **Work Center ID** **Operation**

Description

Set Up/ **Run Hours** **Tool ID**

Date:

Tool# Plan Code

Accept Qty

Run

Reject Number

Insp. Stamp

Draw Nbr

Revision Nbr

D212-664-241

Rev D

100

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-201

CHG003

D1.16/25

110

Packaging Packaging

Pick Kit

Packaging

Memo

0.00

0.00

120

CNC Bend 2

CNC Alpha 160 Bender

0.00

BENDING MACHINE - CROSSTUBES

Memo

0.00

Bend tube as per Dwg D212-664-241 using CNC bender program 212-

W/O:		WORK ORDER CH	*			
DATE	STEP	PROCEDURE CHANGE	r'	Ву	Date Qty	Approval Chief Eng / OC inspector Prod Mgr
••						
			4			
		· ·	23	· ,		

Part No:		PAR #:	Fault Category: _		_ NCR: Yes No	DQA:	Date:
	Resolution: _		Disposition:	**************************************	_ QA: N/C Closed	l:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B			Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Chief Eng	QC Inspector			
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Work Order ID 63539

Thursday, November 04, 2010 9:26:13 AM



Page 2

Item ID:

D212-664-201

Accept



Setup Start



Revision ID:

Start Date:

Item Name: Crosstube Aft

Required Date: 11/19/2010

311/4/2010

Start Otv: 1.00

Req'd Qty: 1.00

Cust Item ID: Customer:

Reference:

Approvals:

Process Plan: _____ Date:

Tooling:

Date:

Date:

Start

Stop

Stop



Date: _____

SPC (Y/N):

Set Up/

Run Hours

Tool ID

Tool # Plan

Accept Qty

Reject Qty

Run

Reject Number

Insp. Stamp

Work Center ID

130

Sequence ID/

Quality Control

Operation **Description**

QC15- Crosstube Dimensional Check

Memo

filula 6

Code

140

Crosstubes Crosstubes

Crosstubes

Memo

0.00

0.00

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550, DT8551, drill table DT8577 and locate tower holes #8 as per OSI0010.

2-Ream hole to finish size in tube as per Dwg D212-664-241using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

W/O:			· V	ORK ORDER CHANG	SES				¢, - ,
DATE	STEP	PROG	CEDURE CH	IANGE		Ву	Date Qt	Approval Chief Eng / Prod Mgr	*Approval QC Inspector
-	-							Prod Mgr	<u>'</u>
Part No	:	PAR #:	_ Fault Ca	tegory:	_ NCR	· · · · · · · · · · · · · · · · · · ·			
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NCR:	NCR: W		ORK OR	DER NON-CONFORM	ANCE	(NCR)			· · · · · · · · · · · · · · · · · · ·
DATE	STEP	Description of NC		tion B		Verificatio	n Approval	Approval	
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date	Section C	Chief Eng	QC Inspector
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W	ork	Order	ID	63	3 53	9
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Quality Control

Memo

Page 3

Thursday, November 04, 2010, 9:26:13 AM Item ID: D212-664-201 Accept Setup Start Revision ID: Stop Item Name: Crosstube Aft **Start Date:** 11/4/2010 Start Otv: 1.00 **Cust Item ID: Required Date: 11/19/2010 Req'd Qty:** 1.00 **Customer:** Reference: Run Start Process Plan: Tooling: Approvals: Date: Date: Stop Date: SPC (Y/N): OC: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. Work Center ID Description Oty Oty Stamp **Run Hours** Code Number 150 Crosstubes Chemical Conversion 0.00 HandFXtube 0.00 Memo Hand Finishing Crosstubes Chemical Conversion Coat as within 24 hours of bending and drilling 160 QC3-Inspect Part Finish 0.00 OC Memo Quality Control 170 QC5- Inspect part completeness to step on W/O

W/O:			WO	RK ORDER CHANG	ES				E 2 .
DATE	STEP	PRO	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	'Approval QC Inspector
Part No	:	PAR #:	Fault Categ	Jory:	_ NCR: Yes	No DQ	A:	Date:	
	Re	solution:	Disposition	n:	_ QA: N/C CI	osed:		Date:	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCF	R)			
DATE	STEP	Description of NC		Corrective Action Sect		Verific	cation	Approval	Approval
	JOIL!	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Secti	ion C	Chief Eng	QC Inspector
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		40.00							

Work Order ID 63539

Thursday, November 04, 2010 9:26:13 AM



Page 4

Item ID:

D212-664-201

Accept

Tool # Plan

Code

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Aft

Start Date: Required Date: 11/19/2010

11/4/2010

Start Oty: 1.00

Operation

Description

Req'd Qty: 1.00

Date: _____

Cust Item ID: Customer:

Reference:

Approvals:

Date:

Tooling: SPC (Y/N):

0.00

Set Up/

Run Hours

Date: Date:

Tool ID

Start Run

Reject

Qty

Accept

Oty

Stop

Insp.

Stamp

Reject

Number

Sequence ID/ **Work Center ID**

180

Outsource2

Outsource process - NDT

Memo

Outsource process - NDT per OSI038 4.1

0.00

Liquid Penetrant Inspection as per QSI 038 Issue P/O: 1298 7 LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

190

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Memo

0.00

Ensure copy of NDT results attached to work order.

(1 /4/2 3 ()

CY_10/11/23 0

200

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect for damage & ensure results are as per Dwg D212-664-241

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W/O:			WC	RK ORDER CHANGI	ES				ε, .
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	'Approval QC Inspector
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Part No	•	PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	A:	Date:	
		esolution:							
NCR:			WORK ORDI	ER NON-CONFORMA	NCE (NCR)			
DATE	STEP	Description of NC	······	Corrective Action Section		Verifie	cation	Approval	Approval
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Work Order ID 63539

Thursday, November 04, 2010 9:26:13 AM



Page 5

Item ID:

D212-664-201

Accept

Setup Start

Stop



Revision ID:

Crosstube Aft Item Name:

Start Date:

11/4/2010

Start Qty: 1.00

Required Date: 11/19/2010 Req'd Qty: 1.00



Date: _____

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling: SPC (Y/N):

Set Up/

Run Hours

Date:

Tool ID

Date:

Tool # Plan

Code

Stop

Reject

Qty

Start



Run

Sequence ID/ **Work Center ID**

210

SprayPaint **Spray Painting** Operation Description

Spray Painting per QSI005 4.2

SprayPaint

Memo

0.00

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per OSI 005 4.2

PRIME:

Start Time: 8:00 Fininsh Time: 9:00

PAINT:

Start Time: 2:00 Finish Time: 3, 30

220

Quality Control

QC14- Inspect Spray Paint

0.00

Memo

0.00

Then, Wrap in plastic bag to protect from scratches

Accept

Qty

Reject Insp. Number

Stamp

RT 10-11-25

		— ·								
W/O:			WC	ORK ORDER CHAN	GES					1.4
DATE	STEP	PROG	CEDURE CHA	NGE	1	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	'Approval QC Inspector
Part No	•	PAR #:	_ Fault Cate	gory:	NCR:	Yes N	lo DQ	A:	Date:	
	R	esolution:	_ Dispositio	n:	QA: N	I/C Clo	sed:		Date:	
NCR:		W		ER NON-CONFORM	MANCE (NCR)				
DATE	STEP	Description of NC Section A			ection B	Sign &	Verific Secti	cation	Approval Chief Eng	Approval QC Inspector
			Chief Eng	Chief Eng		Date				
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Work.	Order ID	635	39
Thursday	November 04	2010	Q · :



Page 6

Thursday, Nover	nber 04, 2010	9:26:13 AM		f (80) 2 64 141							1 450 0
Item ID: Revision ID:	D212-664-20	01		Accept				s	etup St	art	
Item Name:	Crosstube Aft			•		- 1			Si	top	
Start Date:	11/4/2010	Start Qty: 1.00		· - ·	Cust Item I	D:					
Required Date: Reference:	11/19/2010	Req'd Qty: 1.00			Customer:						
Approvals:	Process Pla	n:	Date:	Tooling:	D:	ate:		R		art	
	QC:		Date:	SPC (Y/N):	Da	ate:			Sı	top	
Sequence ID/ Work Center II)	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230 Crosstubes		Crosstubes		0.00				-M	_10_		25 (
Crosstubes		with 41058 v 2-Install sup	wash 'n' wipe ports with magnobond 8 Magnobond Bat	0.00 ing a 320 grit sand paper and of a sper QSI 015. Adhere for foch: 11≤≤≥0				•		·	
		3-Install clar	•	oiry Date: 07 2011 664-241. Torque clamps to 86	0-100 in 1b. W b	Jn \$26					
240		QC5- Inspect part compl	eteness to step on W/O		1						
QC Quality Control		Memo		0.00 > colu	1126			(x)			

W/O:			W	ORK ORDER CHANG	FS					· · · · · ·
DATE	STEP	PRO	OCEDURE CHA		Ву	,	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC inspector
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Part No					NCR: Yes No DQA: Date:					
	He								Date: _	
NCR:			WORK ORD	ER NON-CONFORM	ANCE (N	CR)				
DATE	STEP	Description of NC			ion B		Verifi	cation	Approval	Approval
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Work	Order	m	63530	ì
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Page 7

Thursday, November 04, 2010 9:26:13 AM

Item ID:

D212-664-201

Accept



Run

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Aft

Start Date:

Required Date: 11/19/2010

11/4/2010

Start Oty: 1.00

Reg'd Oty: 1.00



Date:

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date: Tooling:

SPC (Y/N):

Date:

Date:

Stop

Start



Sequence ID/

Work Center ID

250

Packaging

Operation Description

Pick Kit

Memo

Set Up/ **Run Hours**

0.00

0.00

Tool ID

Tool # Plan

Accept Code Qty

Reject

Reject Number

Insp. Stamp

Packaging

OC4- 100% Inspect kits for completeness

D win 129

260

Quality Control

Memo

270

Packaging Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D212-664-201

0.00

0.00

	•								
W/O:			WC	ORK ORDER CHANG	ES				,,
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No		PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	A :	Date:	
	Res	solution:	Disposition	n:	_ QA: N/C CI	osed:		Date: _	
NCR:		,	WORK ORD	ER NON-CONFORMA	NCE (NCF	R)			
DATE	STEP	Description of NC		Corrective Action Section			ation	Approval	Approval
	OIL.	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		on C	Chief Eng	QC Inspector
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Work Order ID 63539

Thursday, November 04, 2010 9:26:13 AM



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Item ID:

D212-664-201

Accept

Setup Start

Revision ID:

Start Date:

Item Name:

Required Date: 11/19/2010

Crosstube Aft

11/4/2010

Start Oty: 1.00

Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

QC:

Operation

Description

Date:

Date: Tooling:

SPC (Y/N):

Run Hours

Set Up/

Date:

Date:

Start

Run

Stop

Stop

Sequence ID/

Work Center ID

280

OC

Memo

OC21- Final Inspection - Work Order Release

0.00

0.00

Tool ID

Tool # Plan

Code

Accept Qty

Reject Reject Qty Number

Insp. Stamp

Quality Control

Dart Ae	rospace	Ltd							•
W/O:			WC	ORK ORDER CHANGES					.:'.
DATE	STEP	PRO	CEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Cate	gory:N	CR: Yes	No DQ	A:	_ Date: _	
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NCR:		V	ORK ORDI	ER NON-CONFORMANC	E (NCR)			
DATE	STEP	Description of NC	ļ	Corrective Action Section B		Verifi	cation	Approval	Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		ion C	Chief Eng	QC Inspector

Picklist Print	t er 04, 2010 9:26:18	AM										Page 1
Work Order ID: 6												
Parent Item:	0212-664-201		11881									
Parent 1:2m Name:	Crosstube Aft		# 1 83 11	17 .0. 19.16 (19.01 11.01 9 11.01 1					art Date: 11/4.	/2010 -	-	l Date: 13/19/2010 d Qty: 1.00
Comments:	IPP Rev:E□04.02.1 IPP Rev:F 06-03-2 IPP Rev:G 07-04- IPP Rev:H 08-05-	29 Remove Con 30 As per Rev	ments o	on Pick List J JLM ber cushion D	LM D verified by:E	CC						
Component Item ID Item Name	O/ Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Status Issued
D212-664- 201TRNRevC		Manufactured	No	130	6261	110	Each	0.0000	1 		D)10-11-
Crosstube Turning Deta D3595-063-530 RUBBER CUSHION		Manufactured	No			230	Each	99.0000	2	2	M	10 - 11 - 25
ROBBER COOMON				Location	<u>!</u>	Loc (<u>Qty</u>	Loc Code				
				FP			30				_	
					50030 51776		12 18		_		_	
				LG	31770		69		<u>-</u>		_	
					59581		35				_	
D2040.1			N I-		63407	230	34 Each	31.0000	2 -		- 1	
D2940-1		Manufactured	No		•	230	Each	31.0000		2	ml	10 . 11 - 25

Support

Loc Code Location Loc Oty LG 31 45203 10 20

D ail 710	. Jopasi									
W/O:			W	ORK ORDER CHANG	SES					a.
DATE	STEP	PRO	OCEDURE CHA	NGE	В	у	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Cate	gory:	_ NCR:	Yes N	o DQ	A:	_ Date: _	
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NCR:			NORK ORD	ER NON-CONFORM	ANCE (I	NCR)				
DATE	STEP	Description of NC			tion B		Verific	ation	Approval	Approval
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Picklist Print								Page 2
Thursday, November 04, 2010 9:26:18 AM								Tage 2
Wgrk Order ID: 63539								
Parent Item: D212-664-201		11 - 11 - 11 - 11 - 11 - 11 - 11 - 11						
Parent Item Name: Crosstube Aft	1 1 1 1 1 1 1 1 1	814 HEBU HUM HUM HUM HUM BILD BIR GIRLI		l • •	St	tart Date:	11/4/2010	Required Date: 11/19/2010
						Start Qty:		Required Qty: 1.00
MS21920-28 Purchased Clamp(per MIL-DTL-8783C)	No		230	Each	95.0000	4 	4	W 10 · 11 · 25
		Location	Loc	Oty	Loc Code			
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		105884		5				<u> </u>
		LG 114749		90 40				_
		116039		50				
D3428-1 Manufactured	No		250	Each	3.0000	1	1	
Placard							B639	78 1011/298
		Location	Loc	Oty .	Loc Code			
		ST096		3				<u> </u>
- M0010401 (62096	4-0	3	.=			- , <i>/</i>
MS21042L6 Purchased	No		250	Each	173.0000		6	11/295/
		Location	Loc	: Oty	Loc Code			
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		111578		4				
•		114495 115300		1 168			1-	

250

Each

0.0000

115300

No

Dait Ac	ospace								
W/O:			WO	RK ORDER CHANG	ES		_		**
DATE	STEP	PRO	OCEDURE CHAN	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Categ	gory:	NCR: Yes	No DQ	A:	Date: _	
	Re	solution:	Disposition	n:	_ QA: N/C Cld	osed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORMA	NCE (NCR)			
DATE	OTED	Description of NC		Corrective Action Section		Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		ion C	Chief Eng	QC Inspector
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Picklist Print

Thursday, November 04, 2010 9:26:18 AM

Work Order ID: 63539

Parent Item:

D212-664-201

Parent Item Name: Crosstube Aft



Start Date: 11/4/_010

Required Date: 11/19/2010

Page 3

Start Qty: 1.00

Required Oty: 1.00

AN6-40A

Purchased

Purchased

No

250

Each 87.0000

Loc Code

ÁN6-41A

Location Loc Oty ST343 87 112828 114283 115300 60 115905 20 No 250 Each

52.0000

Location Loc Qty Loc Code ST344 52 22 113288 115316 30

Dart	Aeros	pace	Ltd
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W/O:	-	WORK ORDER CHANGES					F
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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ı						·	
Part No):	PAR #: Pault Category: NC	R: Yes	No DQ	4:	Date: _	1

Disposition: _____ QA: N/C Closed: ____ Date: ____

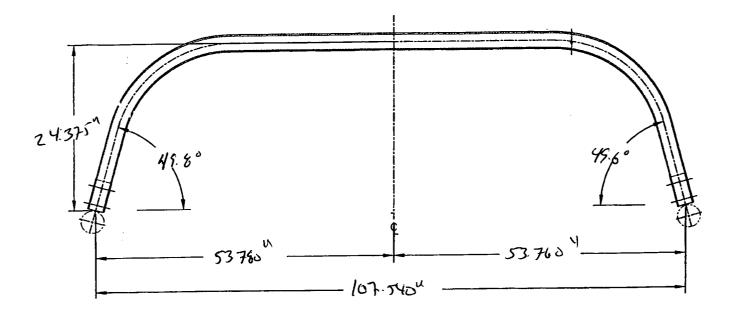
NCR:			WORK ORDE	ER NON-CONFORMANC	CE (NCR)			
		Description of NC		Corrective Action Section B		Verification	Approval	Approval QC Inspector
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	
						,		

NOTE: Date & initial all entries

Resolution:

DART AEROSPACE LTD	Work Order:	1,3539
Description: Crosstube High Aft (205/212)	Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev: D		Page 1 of 1

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



 omments	

Rev	Date	Change	Revised by	Approved
Δ	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM +N	
C	10.04.01	Dwg Rev updated	KJ 95	1

53.760 53.760 107.540

W/O:			WORK ORDER	CHANGES				
DATE S	STEP	PF	ROCEDURE CHANGE	Ву	Date	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Category:	NCR: Ye	s No DQ	A:	Date: _	
	Resolut	ion:	Disposition:	QA: N/C	Closed:		Date:	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B		Verification	Approval	Approval QC Inspector			
DATE S	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng				
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,											

Item	Qty -241	Qty -241B	Part Number	Description
1	Х		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		Х	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

1) MATERIAL: MANUFACTURED FROM D6006-129

FINISHED LENGTH = 124.362±0.020

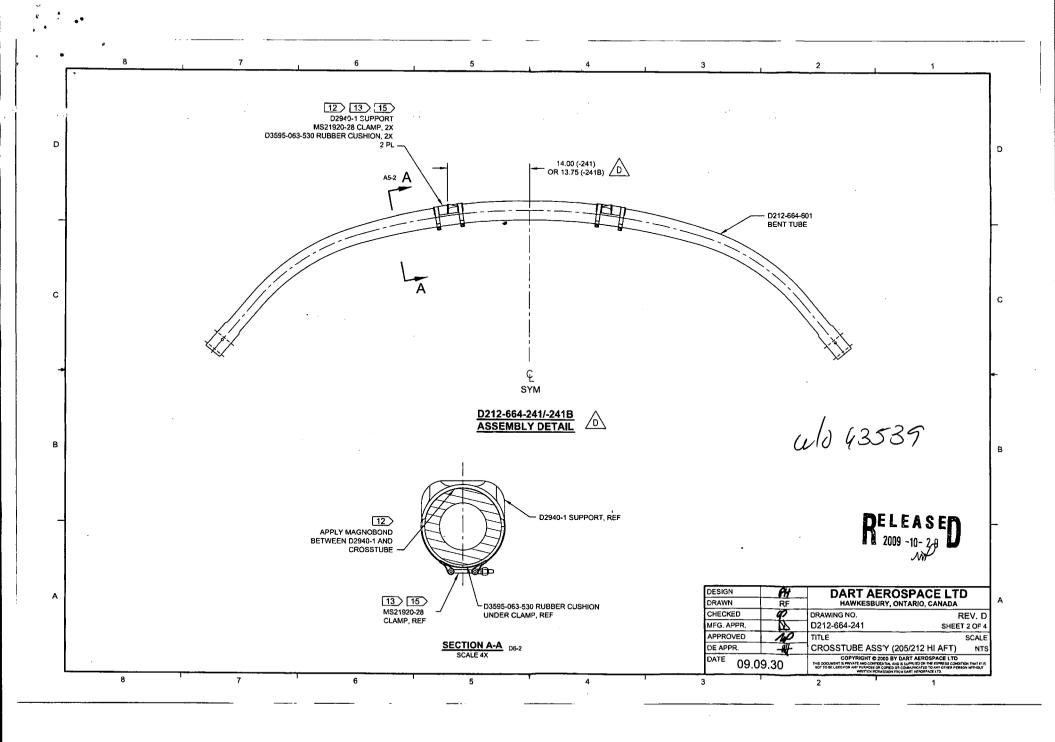
FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664) D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

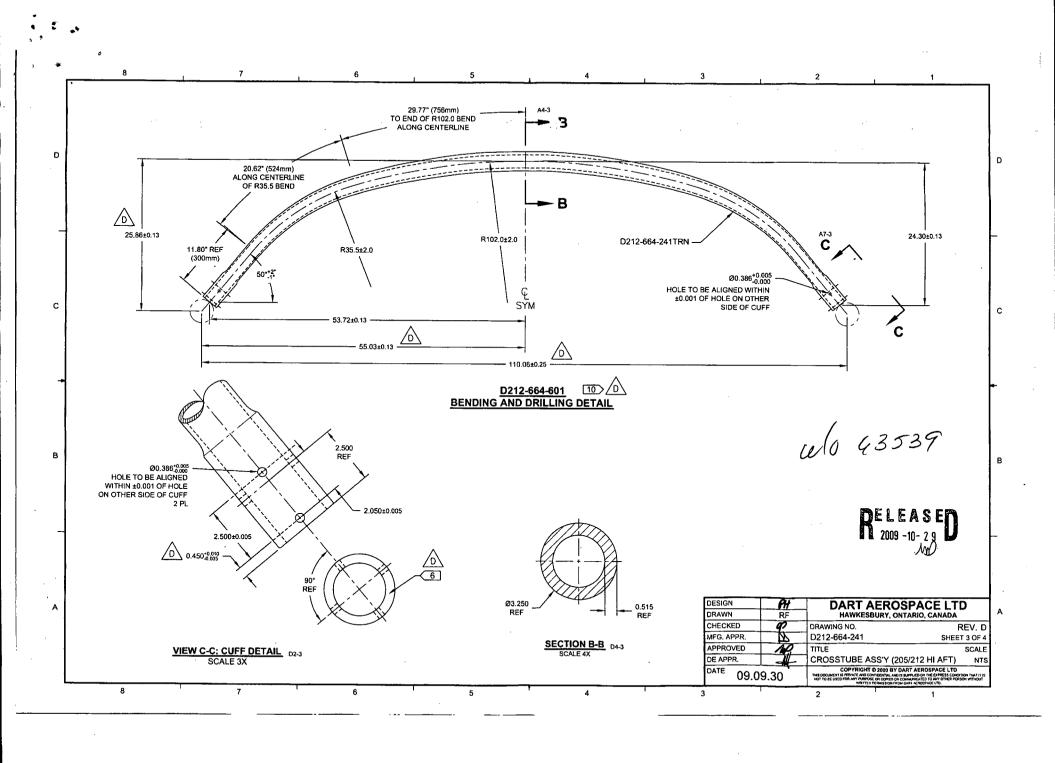
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D	REORG TO CUR REMOV C6-3 & A A5-3); N	FFORMATIREVISE GENERAL NOTES/PART LIST: CORGANIZED VIEWS AND REFORMATTED DRAWING D CURRENT STANDARDS; ADD -2418 (ZN D4-2, B4-2); EMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, 6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN D8-3 & C4-3); MOVED TURNING DETAIL & UPDATED TOLERANCE D SHEET 4						
С			ASION STRIP; ADD MAGNOBOND /ERSE CLAMPS	PH	07.03.08			
8		ADD HOLES FOR COMPATABILITY WITH BHT/AA PH 05.02						
Α	NEW IS	SSUE		PH	00.12.12			
REV.			DESCRIPTION	BY	DATE			
DESIGN		PH	DART AEROSP	ACE	LTD			
DRAWN		RF	HAWKESBURY, ONTARIO, CANADA					
CHECK	ED	P	DRAWING NO.		REV. D			
MFG. AF	PPR.	77	D212-664-241					
APPRO	√ED	10	TITLE		SCALE			
DE APP	R,	4	CROSSTUBE ASS'Y (205/212 HI AFT) NTS					
DATE	09.0	9.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND COMPIDENTIAL AND IS SUPPLED ON THE DOPRESS COMMON THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMES OR COMMON LEGISTED IN MY TO OTHER PERSON WITHOUT WITH THE PREMISSION FROM DART AEROPEACE TO.					

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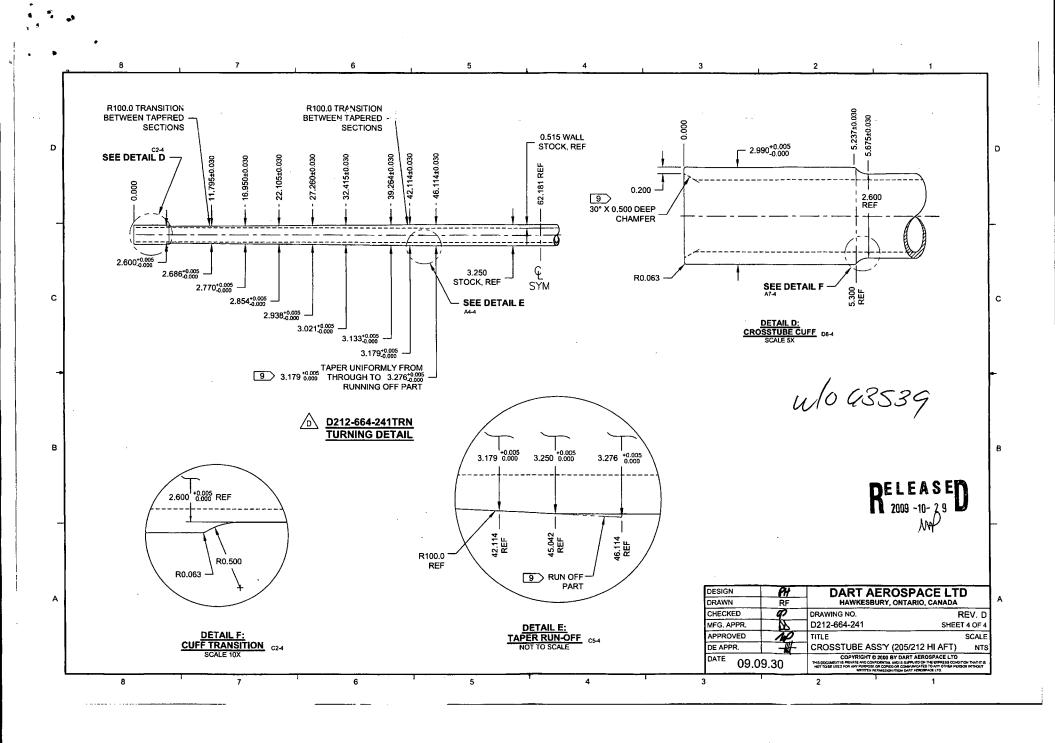


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W/O:			WC	RK ORDER CHANGE	S				6
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Part No	•	PAR #:	Fault Cate	gory:	NCR: Yes	No DQ .	A:	_ Date: _	
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	1	ion C	Chief Eng	QC Inspector
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		P. C. S. C.						
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NCR:			WORK ORE	DER NON-CONFORM	ANCE (NCR	2)		
DATE	STEP	Description of NC			ion B	Verification	on Approval	Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		QC Inspector
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Part No:		PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
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LIQUID PENE	TRANT TEST REPORT
ACUREN	0
	PAGE i OF
1) ART AT COMME	DATE DOV-23-3010 TIME AM PM 0
LIENT THE NOTIFICE	DATE 1000-03-4010 TIME AM 1 PM 1 ACUREN JOB NO. 188-10-0871
THENTION WINDS ACTUE CHANGE IT W	512007
DDRESS 1370, ABERDEEN ST.	PO/WO No. 1298 1
HAWKESDIKY, ON	WORK LOCATION AS A DUCES
	ACCEPTANCE STD. REV./DATE
ROJECT CLET Flux, BUETRANT TESTING ON	"CROSSTUBES" & "MOUDT"
EM(S) EXAMINED	
SEE W.O. # BELOW WE	
OB DESCRIPTION PROCEDURE NO. LT 203 REV./DAT	
'ART NO.	MATERIAL THICKNESS
COPE PELFERMED A WET FLUETESCENT	INSTECTION BY Lichely PENETRANT ON 100%
OF THE EXTERNAL SUNFACE	
EST DETAILS	3 Page 5 144 95550
1ETHOD	□ WATER WASH □ SOLVENT REMOVABLE □ POST EMULSIFIED BLACK LIGHT S/N 3 □ OUTPUT > 1000 μ W/cm² □ AMBIENT < 2 fc
AMILY BRAND MACA A FLANK ENETRANT MINIMUM DWELL TIME 10 MI	
ENETRANT REMOVER H, & MINIMUM DRY TIME >10 MI	N. OTHER
PEVELOPER SKA SE MINIMUM DWELL TIME 10 MI	N. LIGHT METER S/N CAL DUE DATE
PEVELOPER TYPE NON AQUEOUS AQUEOUS DRY EST SURFACE	·
URFACE CONDITION AS GROUND AS WELDED	☐ MACHINED ☐ SHOT BLASTED ☐ CLEAN BARE METAL
URFACE TEMPERATURE □ < - 4°C/ 20°F □ - 4°C/ 20°F to 10°C/	50°F
RESULTS- (METRIC / MPERIAL)	
TEM COMMENTS ACEITED	man alama and a series of the
F1 Cresstube - we id 63527	(ITEM 1); DOC-667-203 (TIDES 1,2))
1 2 CROSS TUBE - W.O. 10 63528	77001D: D 212-664-201 Clous#3,41.)4
3 CPSS 16BE-W.C. 1D 63533	- 17em 10: D212-664-101(17es# 5.6)
14 CROSS TUBE - W.O. 10-63539)	- RESSTUBE FUID
5 CROSS TUBE - W. A. 10 63744 V	- X- MOUNT-X
C. Choss Rebe - W.O. D 63 745	- / M & U & T - / (170M#7)
F7 4×Mount(s)-w.o. 1) 61889	
NOTE OF THE THE PROPERTY AND ADMINISTRATION OF THE PROPERTY AND A SECOND OF THE PROPERTY OF TH	
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	10-11-23
cope of Services 're agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing.	Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood
at all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group	Inc. based on information and assumptions supplied by the ownerroperator and are not included the editions as a I the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the
ta or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc. s liability in respe	ct of the services referred to never in exceed the amount pade for such services.
performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised unde- plied, is made or intended by Acuren Group Inc.	r similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or
IGNATURES	
LIENT REPRESENTATIVE MAT MORDOCH MA	Tatty Muselock DTR# E 63039
ECHNICIAN (SIGNATURE):	SIGNATURE
IAME (PRINT):	REVIEWED BY: Name INITIALS
1 ST TECHNICIAN	2 ⁶⁰ TECHNICIAN 3 LEVEL SNT LEVEL
	B REG. NO

IIN-D212-664

Page 18 of 20

5.0 PARTS LIST

HIGH GEAR CROSSTUBES

Item	-101	÷201	-203	Part Number	Description
	x	,		D212-664-101	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
		x		D212-664-201	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
			х	D412-664-203	CROSSTUBE INSTALLATION, 412 HIGH AFT
1	1			D212-664-141	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
2		1		D212-664-241	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
3			1	D412-664-243	CROSSTUBE ASSEMBLY, 412 HIGH AFT
					CUPPORT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4	<u> </u>	ļ	* MS21920-25	CLAMP (OR MS21042-26)
13	44	ļ		AN6-35A	BOLT
14	4	ļ		AN6-36A	BOLT COR MODALO (S)
15	6		ļ	MS21042L6	NUT (OR MS21042-6)
16	18		 	AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4	 	* D3595-063-530	RUBBER CUSHION
22		4	 	* MS21920-28	CLAMP (OR MS21042-30)
23	-	4	-	AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6	 	MS21042L6	NUT (OR MS21042-6)
26		18	<u> </u>	AN960JD616	WASHER
30		L	1	* D2896-1	SUPPORT
31		ļ	2	* D2856-600-1009	ABRASION STRIP
32			2_	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			- 6	MS21042L6	NUT (OR MS21042-6)
38			/ 18 _	AN960JD616	WASHER
39		-	2	* D3189-1	CHAFING SHIELD
50	1	1 1	 	D3428-1	PLACARD

^{*}REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-141/-241 OR D412-664-243 ASSEMBLIES ABOVE NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA SKIDTUBES.